

Claims

1. A power amplifier circuit comprising:  
a first transistor having a first input and a first output;  
a second transistor having a second input coupled in series with the first output of the first transistor;  
an input circuit coupled to the first input of the first transistor; and  
a power control circuit coupled to the second input of the second transistor, the control circuit including:  
a time delay circuit; and  
a variable source.
2. The circuit of claim 1, wherein the variable source includes a digital input and a digital-to-analog converter.
3. The circuit of claim 1, wherein the variable source includes a variable current source.
4. The circuit of claim 1, wherein the time delay circuit includes at least one of a resistor and a capacitor.
5. The circuit of claim 4, wherein at least one of the resistor and the capacitor are variable.
6. The circuit of claim 1, wherein power amplifier circuit is included within a transmitter.
7. The circuit of claim 1, wherein power amplifier circuit is included within wireless data link transmitter.
8. A data link system comprising:

- a first receiver; and
  - a first transmitter including:
    - a power control circuit coupled to a power control input, the power control circuit including:
      - a time delay circuit; and
      - a variable current source.
9. A power amplifier circuit comprising:
- a first transistor having a first input and a first output;
  - a second transistor having a second input coupled in series with the first output of the first transistor;
  - an input circuit coupled to the first input of the first transistor; and
  - a power control circuit coupled to the second input of the second transistor, the power control circuit including:
    - an RC time delay circuit; and
    - a variable current source including a digital input and a digital-to-analog converter.
10. The circuit of claim 9, wherein at least one of the resistor and the capacitor are variable.
11. A method of controlling power output of an amplifier comprising:
- receiving a control signal;
  - producing a stepped power control signal including a plurality of power control steps, wherein producing each one of the plurality of steps includes:
    - producing a step voltage; and
    - applying a time delay to the step voltage; and
  - applying the stepped power control signal to a power control input of the amplifier.

12. The method of claim 11, wherein the control signal is a digital control signal.
13. The method of claim 12, wherein the digital control signal is input to a digital-to-analog converter to produce an analog control signal.
14. The method of claim 11, wherein the control signal determines a number of steps included in the plurality of steps.
15. The method of claim 11, further comprising varying at least one aspect of the time delay to modify the time delay.
16. The method of claim 11, wherein at least one of the plurality of steps will cause the amplifier to produce a desired output power level.
17. The method of claim 11, wherein an elapsed time from a first one of the plurality of steps to a second one of the plurality of steps is less than a maximum ramp time, wherein the second one of the plurality of steps corresponds to a desired output power level of the amplifier.
18. The method of claim 11, wherein a plurality of harmonics are substantially eliminated at each one of the plurality of steps.